

**IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF OHIO  
EASTERN DIVISION**

**LEXINGTON LUMINANCE LLC,**

*Plaintiff,*

**v.**

**TECHNICAL CONSUMER  
PRODUCTS, INC.,**

*Defendant.*

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**Civil Action No.: 5:22-cv-02235**

**JURY DEMANDED**

**PLAINTIFF’S COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Lexington Luminance LLC (“Lexington” or “Plaintiff”) files this complaint for patent infringement against Technical Consumer Products, Inc. (“TCP” or “Defendant”) and states as follows:

**THE PARTIES**

1. Plaintiff Lexington Luminance LLC is a limited liability company organized under the laws of Massachusetts with its principal place of business at 468 Lowell Street, Lexington, Massachusetts 02420.

2. On information and belief, Defendant TCP is a corporation organized under the laws of the state of Delaware with its principal place of business at 325 Campus Drive, Aurora, Ohio 44202. Defendant’s registered agent for service is CT Corporation System, 4400 Easton Commons Way, Suite 125, Columbus, Ohio 43219.

### **JURISDICTION AND VENUE**

3. This is an action for patent infringement arising under the patent laws of the United States, Title 35, United States Code. Jurisdiction as to these claims is conferred on this Court by 28 U.S.C. §§1331 and 1338(a).

4. On information and belief, Defendant operates a regular and established place of business in the Northern District of Ohio at 325 Campus Drive, Aurora, Ohio 44202.

5. This Court has personal jurisdiction over the Defendant. Defendant has conducted and does conduct business within the State of Ohio and within this District. Defendant purposefully and voluntarily sold one or more of the infringing products with the expectation that they will be purchased by and used by consumers in this District. These infringing products have been and continue to be purchased by and used by consumers in this District. Defendant has committed acts of patent infringement within the United States and, more particularly, within this District. Defendant has (i) availed itself of the rights and benefits of the laws of the State of Ohio, (ii) transacted, conducted, and/or solicited business and engaged in a persistent course of conduct in the State of Ohio (and in this District), (iii) derived substantial revenue from the sales and/or use of products, such as the infringing products, in the State of Ohio (and in this District), (iv) purposefully directed activities (directly and/or through intermediaries), such as shipping, distributing, offering for sale, selling, and/or advertising the infringing products, at residents of the State of Ohio (and residents in this District), (v) delivered infringing products into the stream of commerce with the expectation that the infringing products will be used and/or purchased by consumers in the State of Ohio (and in this District), and (vi) committed acts of patent infringement in the State of Ohio (and in this District).

6. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b), as Defendant has committed acts of infringement in this District by, e.g., contributing to and inducing third parties and offering the Accused Products to customers and potential customers located in Ohio, including in the Northern District of Ohio, and Defendant also has a regular and established place of business in this District.

### **PATENT INFRINGEMENT**

7. Lexington incorporates by reference the paragraphs above as if fully set forth herein.

8. On August 30, 2005, United States Patent No. 6,936,851 B2 entitled “Semiconductor Light-Emitting Device and Method for Manufacturing the Same” was duly and legally issued after full and fair examination. Lexington is the owner of all right, title, and interest in and to the patent by assignment, with full right to bring suit to enforce the patent, including the right to recover for past infringement damages and the right to recover future royalties, damages, and income.

9. On September 30, 2013, an *ex parte* reexamination no. 90/012,964 was initiated for United States Patent No. 6,936,851 B2. An *ex parte* reexamination certificate was issued on December 5, 2014 for United States Patent No. 6,936,851 C1. United States Patent No. 6,936,851 B2 and 6,936,851 C1 are collectively known as the ’851 Patent. A true copy of the ’851 patent is attached as Exhibit 1.

10. The ’851 Patent is valid and enforceable.

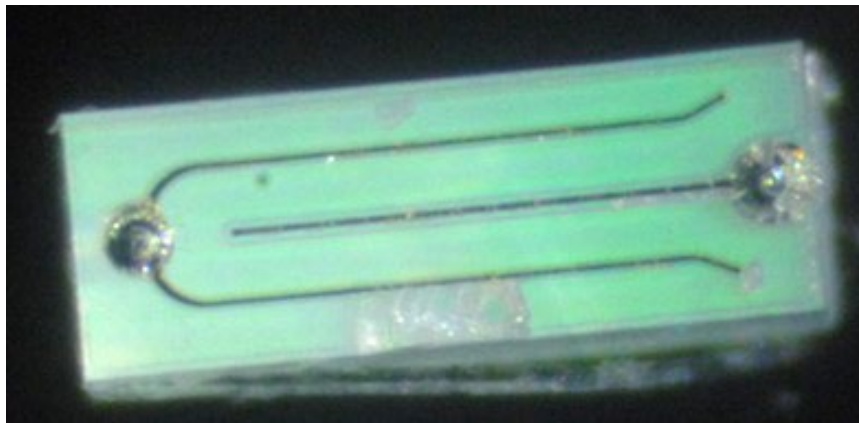
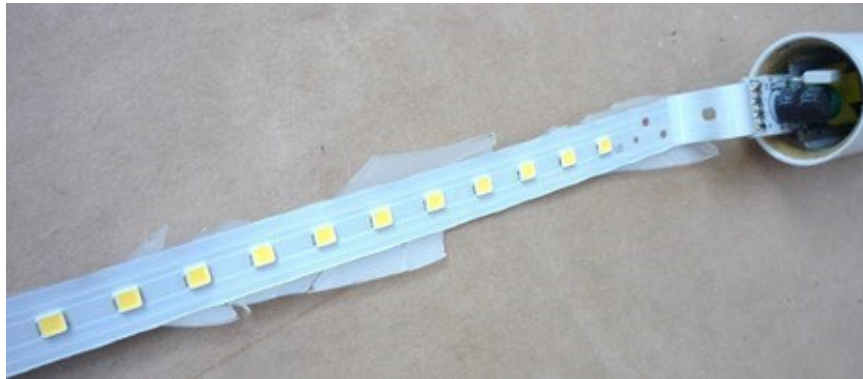
11. To the extent any marking or notice was required by 35 U.S.C. § 287, Plaintiff has complied with the applicable marking and/or notice requirements of 35 U.S.C. § 287.

12. Upon information and belief, Defendant has infringed and/or continues to infringe (literally and/or under the doctrine of equivalents) one or more claims of the '851 Patent in this judicial district and elsewhere in the United States, including at least claim 1, 2, and 15 by, among other things, making, using, offering for sale, selling, and/or importing light-emitting diode ("LED") lighting products containing LEDs that infringe the '851 Patent (collectively, the "Accused Products").

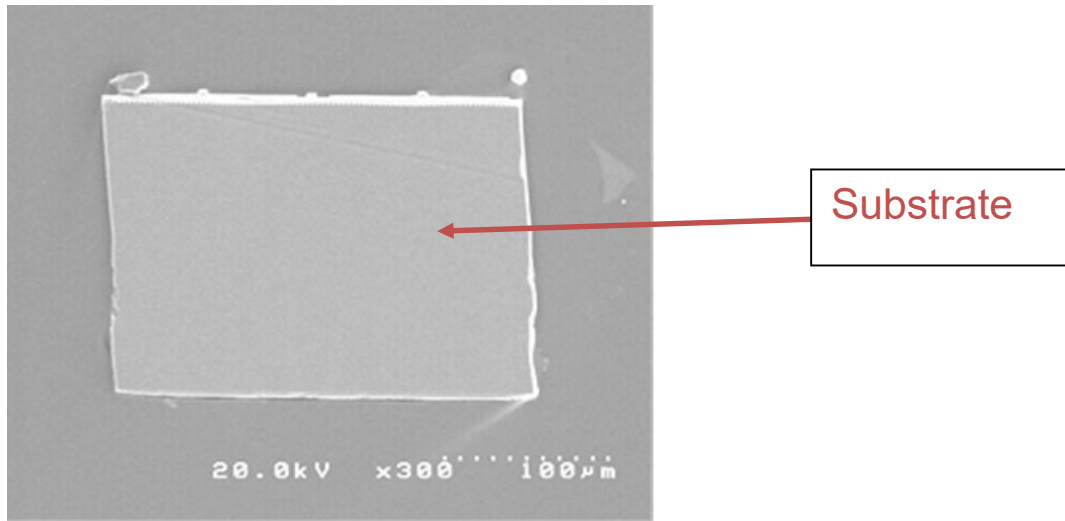
13. One exemplary Accused Product is the TCP LT815AB50K T8 15W 4 Ft Type AB Tube 1800 Lm 5000K, which is described in the illustrations below. On information and belief, the Accused Products use Light-Emitting Diodes ("LEDs") that infringe one or more claims of the '851 Patent, including, at least, claim 1, as explained in the following paragraphs. The following explanation provides information regarding infringement of the '851 Patent is illustrative and is provided for purposes of satisfying Plaintiff's pleading obligations and should not be construed as limiting. Plaintiff will serve infringement contentions in this case in accord with the Local Rules and the case schedule entered by the Court.

14. The LEDs used in the Accused Products are semiconductor light-emitting devices. The LEDs in the Accused Products are used to emit light.

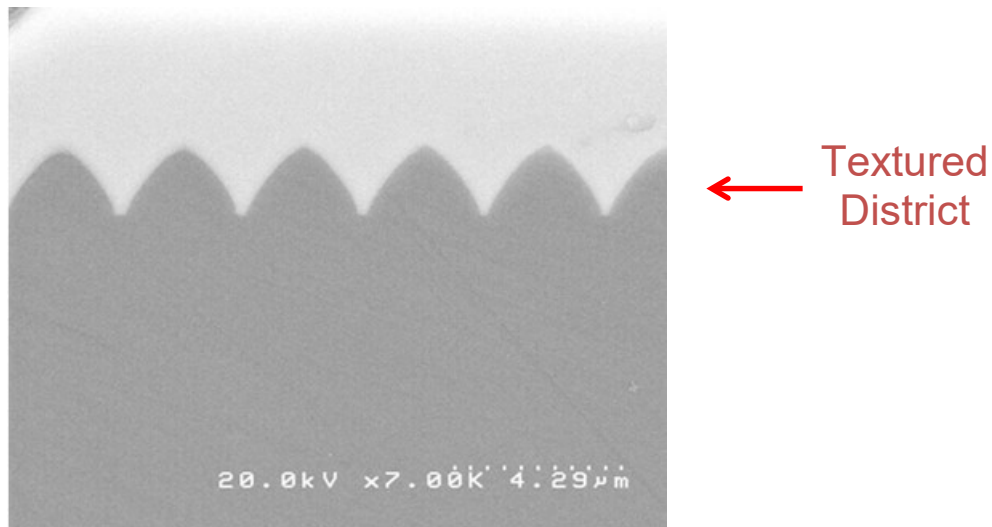




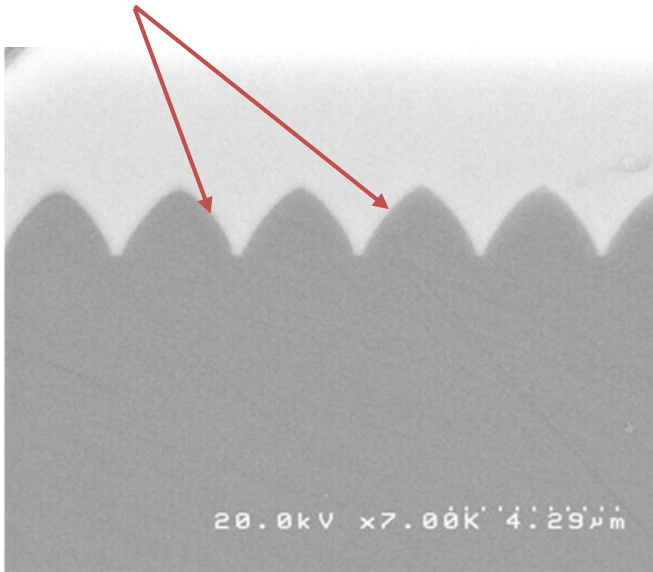
15. The LEDs used in the Accused Products contain a substrate.



16. The LEDs used in the Accused Products contain a textured district defined on the surface of said substrate comprising a plurality of etched trenches having a sloped etching profile with a smooth rotation of micro-facets without a prescribed angle of inclination.



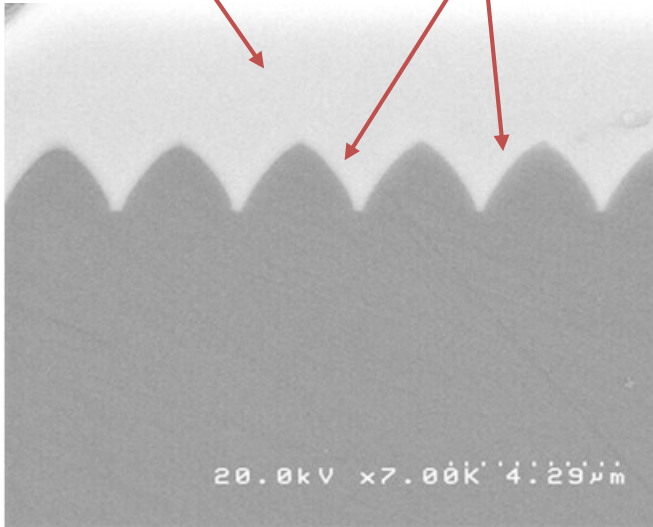
The plurality of etched trenches has sloped etching profiles with a smooth rotation of micro-facets without a prescribed angle of inclination.



17. The LEDs used in the Accused Products contain a first layer disposed on said textured district comprising a plurality of inclined lower portions, said first layer and said substrate form a lattice-mismatched misfit system, said substrate having at least one of a group consisting of group III-V, group IV, group II-VI elements and alloys, ZnO, spinel and sapphire.

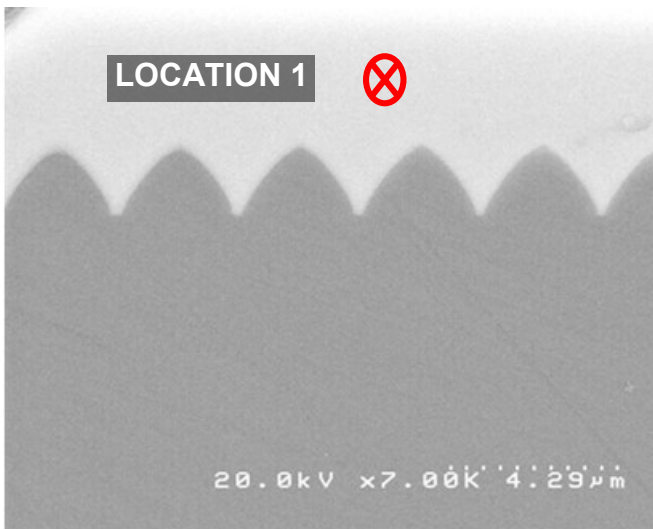
The first layer is disposed  
on the textured district.

The first layer has a plurality of inclined  
lower portions.



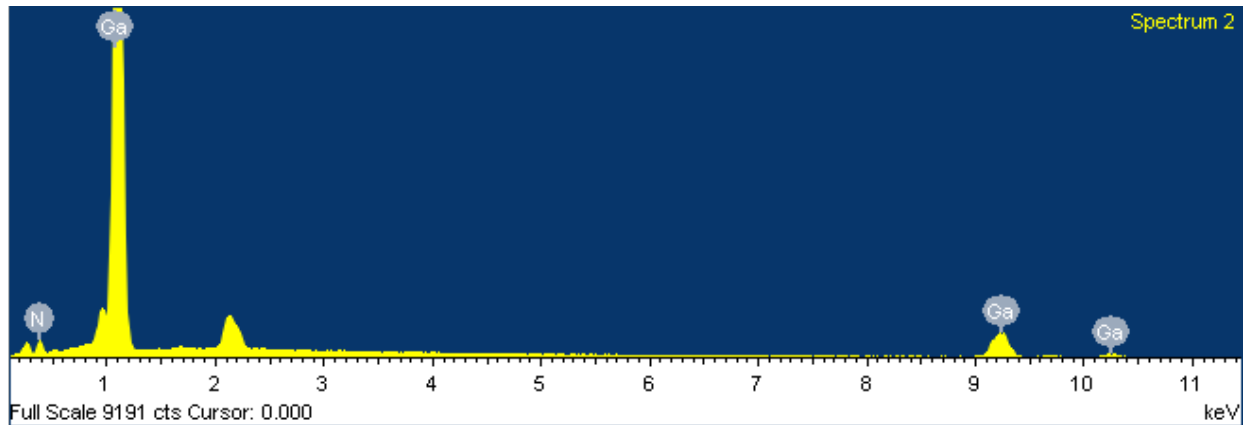
18. The LEDs used in the Accused Products use a gallium nitride first layer.

SEM Cross-Section of the LED Identifying the Location of the EDX Measurement:





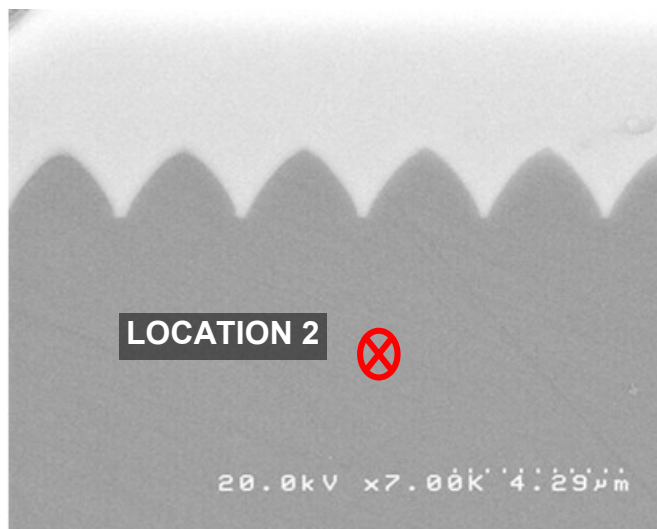
EDX Analysis of First Layer:



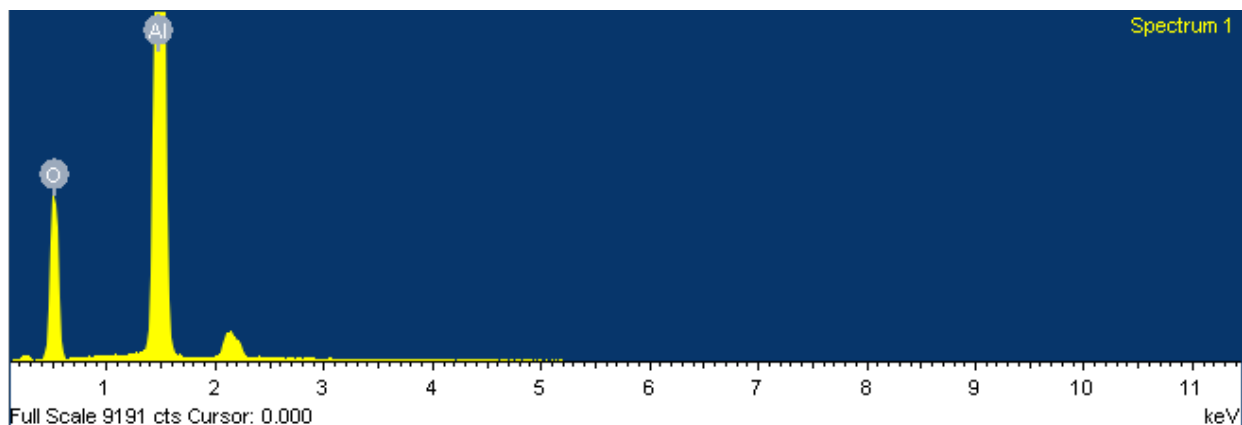
The first layer is comprised of gallium nitride (GaN).

19. The LEDs used in the Accused Products contain a sapphire substrate.

SEM Cross-Section of the LED Identifying the Location of the EDX Measurement:



EDX Analysis of Substrate:



The substrate is comprised of sapphire ( $\text{Al}_2\text{O}_3$ ).

20. The Gallium Nitride first layer and Sapphire ( $\text{Al}_2\text{O}_3$ ) substrate form a lattice-mismatched misfit system.

## I. INTRODUCTION

The lack of good quality GaN substrates led to investigation into several different substrates for epitaxial growth of GaN, of which, C-plane (0001) sapphire is the most widely studied substrate. Due to the large lattice mismatch ( $\sim 14\%$ ), several approaches have been adapted to optimize the nucleation and growth of GaN layers on these substrates. Amano

*Epitaxial growth of gallium nitride thin films on A-plane sapphire by molecular beam epitaxy, Center for Photonics Research, College of Engineering, Boston University, Boston, Massachusetts, Journal of Applied Physics, Vol. 85, No. 7, 1 April 1999.*

21. The LEDs used in the Accused Products contain a light-emitting structure containing an active layer disposed on said first layer, whereby said plurality of inclined lower portions are configured to guide extended lattice defects away from propagating into the active layer.

22. Defendant has not been licensed under the '851 Patent.

23. Defendant's acts of infringement have caused damage to Plaintiff. Plaintiff is entitled to recover from Defendant the damages sustained by Plaintiff as a result of the wrongful acts of Defendant in an amount subject to proof at trial.

24. Defendant has had actual notice of its infringement of the '851 Patent since on or about June 15, 2020, when Defendant received a letter from Lexington making it aware of the '851 Patent and identifying certain of Defendant's LED lighting products.

25. Since at least the filing of the original complaint in this action, and/or service of same, Defendant has had knowledge of the '851 Patent and has had knowledge of its infringement of the '851 Patent.

26. Since at least Defendant's receipt of Lexington's notice letter on June 15, 2020, Defendant has been aware of the '851 Patent and has had knowledge of its infringement of the '851 Patent.

27. Defendant's infringement has been and continues to be willful and deliberate. Upon information and belief, Defendant deliberately infringed the '851 Patent and acted recklessly and in disregard to the '851 Patent by making, having made, using, importing, and offering for sale products that infringe the '851 Patent. Upon information and belief, the risks of infringement were known to Defendant and/or were so obvious under the circumstances that the infringement risks should have been known. Upon information and belief, Defendant has no reasonable non-infringement theories. Upon information and belief, Defendant has not attempted any design/sourcing change to avoid infringement. Defendant has acted despite an objectively high likelihood that its actions constituted infringement of the '851 Patent. In addition, this objectively-defined risk was known or should have been known to Defendant. Upon information and belief, Defendant has willfully infringed and/or continues to willfully infringe the '851 Patent.

Defendant's actions of being made aware of its infringement, not developing any non-infringement theories, not attempting any design/sourcing change, and not ceasing its infringement constitute egregious behavior beyond typical infringement.

28. Defendant's affirmative acts of selling the Accused Products, causing the Accused Products to be sold, advertised, offered for sale, and/or distributed, and providing instruction manuals for the Accused Products have induced and continue to induce Defendant's customers, and/or end-users to use the Accused Products in their normal and customary way to infringe the '851 Patent. For example, it can be reasonably inferred that end-users will use the infringing products, which will cause the LEDs that are the subject of the claimed invention to be used. Defendant specifically intended and was aware that these normal and customary activities would infringe the '851 Patent. By way of example, the LEDs that are the subject of the claim invention are energized and illuminated when an infringing lamp is turned on and its LEDs illuminated. These actions have induced and continue to induce the direct infringement of the '851 Patent by end-users. Defendant performed the acts that constitute induced infringement, and would induce actual infringement, with the knowledge of the '851 Patent and with the knowledge, or willful blindness to the probability, that the induced acts would constitute infringement. Upon information and belief, Defendant specifically intended (and intends) that its actions will result in infringement of at least claim 1 of the '851 Patent, or subjectively believes that its actions will result in infringement of the '851 Patent but took deliberate actions to avoid learning of those facts, as set forth above. Upon information and belief, Defendant knew of the '851 Patent and knew of its infringement, including by way of this lawsuit and earlier as described above.

**DEMAND FOR JURY TRIAL**

Plaintiff hereby demands a jury for all issues so triable.

**PRAYER**

WHEREFORE, Plaintiff prays for judgment that:

1. Defendant has infringed the '851 Patent;
2. Plaintiff recover actual damages under 35 U.S.C. § 284;
3. Plaintiff be awarded supplemental damages for any continuing post-verdict infringement up until final judgment;
4. Plaintiff be awarded a compulsory ongoing royalty;
5. Plaintiff be awarded an accounting of damages;
6. Plaintiff be awarded enhanced damages for willful infringement as permitted under the law;
7. A judgment and order requiring Defendant to pay to Plaintiff pre-judgment and post-judgment interest on the damages awarded, including an award of pre-judgment interest, pursuant to 35 U.S.C. § 284, from the date of each act of infringement of the '851 Patent by Defendant to the day a damages judgment is entered, and a further award of post-judgment interest, pursuant to 28 U.S.C. § 1961, continuing until such judgment is paid, at the maximum rate allowed by law;
8. An award to Plaintiff of the costs of this action and its reasonable attorneys' fees pursuant to 35 U.S.C. §285;
9. Such other and further relief as the Court deems just and equitable.

DATED: December 12, 2022

Respectfully submitted,

SAND, SEBOLT & WERNOW CO., LPA

/s/Howard L. Wernow

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**ATTORNEY FOR PLAINTIFF**

**LEXINGTON LUMINANCE LLC**